I. NOTICES SCIENTIFIQUES

THE BRITISH FUNDAMENTAL GRAVITY STATION

(National Physical Laboratory, Teddington, Middlesex)

(Communication from the British National Committee for Geodesy and Geophysics)

New site at the National Physical Laboratory, Teddington, Middlesex

The British Fundamental Gravity Station (1) was for many years situated at Greenwich Observatory. Originally a site in the Record Room was chosen but, in 1927, a new position was selected some 300 metres east of the Observatory in the old magnetic pavilion. This building, has now been demolished and in view of the fact that the Royal Observatory is being transferred from Greenwich to Herstmonceux, a new site for the British Fundamental Gravity Station is required.

At the IXth. General Assembly of the International Union for Geodesy and Geophysics held in Brussels in 1951, a resolution was passed by the International Association for Geodesy urging « each country to ensure that their primary station is established in a suitable permanent position ».

At its meeting on 30 June 1952 the British National Committee for Geodesy and Geophysics resolved that the British Fundamental Gravity Station should be at the National Physical Laboratory, Teddington, Middlesex, on the site of CLARK's (1939) absolute determination of gravity in Room No. 11 of the Metrology Division building. The geodetic co-ordinates (see Fig. 1 and 2) and height of the pillar which CLARK used are :

Latitude	51° 25′ 13.6″ N
Longitude	0° 20′ 21.4″ W
Height (Newlyn datum)	9.24 m.

(1) Formerly known as the « British National Gravity Base ». The new name has been adopted in accordance with a resolution made by the International Gravimetric Commission at its meeting in Paris in September 1953.

The pillar which is situated in the south east corner of the room, has most of its upper surface at floor level. There is an extension of height 70 cm. at one end but this a later addition and has no connection with CLARK's experiments. Most of the relative measurements of gravity at this site have been made with apparatus standing on the floor and it is recommended that this practice should be continued. The mean height of the centre of gravity of CLARK's pendulum was 95 cm. above floor level. It was therefore subjected to a mean acceleration of gravity 0.29 mgal. less than at floor level. The pillar is set 6 ft. into the subsoil and under normal conditions is very steady but occasionally some disturbance due to nearby building work and heavy machinery has been noticed (CLARK 1939), (COOK 1952).

If circumstances arise which make it inconvenient to observe on CLARK's pillar, there are two subsidiary sites nearby which are well compared with the Fundamental Gravity Station.

1. On the roadway immediately outside the west door of the main east-west corridor of the Metrology building (Fig. 1) approximately 30 m. west of the Fundamental Gravity Station. The Geodetic co-ordinates are :

Latitude	51° 25′ 14″ N
Longitude	0° 20′ 23″ W
Height (Newlyn datum)	9.24 m.

The value of gravity at this site is known to be the same as at the National Base within ± 0.02 mgal.

2. On the west side of the road in Avenue Gardens, Teddington about 20 m. from the junction with Park Road (Fig. 2). The geodetic co-ordinates are :

Latitude	51° 25′ 14″ N
Longitude	0° 19′ 55″ W
Height (Newlyn datum)	9.60 m.

The value of gravity at this site is 0.04 ± 0.02 mgal. greater than at the National Base.

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